

**SERVO CONTROLLER INTERFACE MODULE FOR EMBEDDED DISK
CONTROLLERS**

INVENTOR(S) :

5 **DAVID M. PURDHAM**

LARRY L. BYERS

MICHAEL R. SPAUR

ABSTRACT OF THE DISCLOSURE

10 An embedded disk controller ("controller") having a servo
controller is provided. The controller also includes a
servo controller interface with a speed matching module
and a pipeline control module such that at least two
processors share memory mapped registers without
15 conflicts. The processors operate at different
frequencies, while the servo-controller and the servo
controller interface operate in same or different
frequency domains. The pipeline control module resolves
conflict between the first and second processor
20 transaction. The speed matching module ensures
communication without inserting wait states in a servo
controller interface clock domain for write access to the
servo controller and there is no read conflicts between
the first and second processor. The controller also
25 includes a hardware mechanism for indivisible register

access to the first or second processor. The hardware mechanism includes a hard semaphore and/or soft semaphore.